

Claim Amendments

Please cancel claims 10 – 18.

19. (new claim) A device for calibration of a mass flow sensor, comprising:

- a. a flow channel and a holder for accommodating the insertion of a mass flow sensor into the flow channel;
- b. the flow channel having, at one end, a pump and, at its other end, an inlet opening for a gas which is conveyed through the flow channel with the aid of the pump;
- c. a variable nozzle located between the holder and the pump, said nozzle having a conically widening portion and a spike which is arranged in the portion and which can be adjusted in the portion by an actuator in order to change the free cross section in the portion, the spike of said nozzle being continuously adjustable during a calibrating operation on the basis of a predetermined time/displacement profile by a control device and generating a supercritical flow during operation of the pump, the nozzle, pump and flow channel being configured so that in use, the flowing gas attains the speed of sound where the cross-section of the nozzle is at its narrowest; and
- d. sensors located between the air mass sensor and the variable nozzle for the purpose of continuously sensing state variables of the air stream.

20. (New claim) The device according to Claim 19, wherein the spike has the form of a cone or truncated cone which is arranged centrally in the portion.

21. (New claim) The device according to Claim 20, wherein the spike is adjustable along a longitudinal axis.

22. (New claim) The device according to claim 19, wherein the state variables comprise temperature, relative atmospheric humidity, and/or pressure.

23. (New claim) The device according to claim 20, wherein the state variables comprise temperature, relative atmospheric humidity, and/or pressure.

24. (New claim) The device according to claim 21, wherein the state variables comprise temperature, relative atmospheric humidity, and/or pressure.

25. (New claim) A method for calibrating an air mass sensor, comprising the steps of:

a) arranging a mass flow sensor to be calibrated in a flow channel which comprises a pump at one end and an inlet opening for a gas which is conveyed through the flow channel with the aid of the pump at its other end; a variable nozzle located between the mass flow sensor and the pump, said nozzle having a conically widening portion and a spike which is arranged in the portion and which can be adjusted in the portion by means of an actuator in order to change the free cross section in the portion, and the spike of said nozzle being continuously adjustable during a calibrating operation on the basis of a predetermined time/displacement profile by means of a control device;

b) generating a mass flow, corresponding to a mass flow/time profile, in the flow channel on the basis of the predetermined time/displacement profile of the control device; and

c) continuously adjusting the position of the spike of the variable nozzle

in accordance with the time/displacement profile in such a manner that a flow with the speed of sound is generated at the narrowest cross section of the variable nozzle during operation of the pump.